

**AMENDMENTS TO THE SPECIFICATION:**

Amend the specification as follows:

**Please replace paragraph [4] with the following rewritten paragraph:**

Hitherto disk devices have been widely put into use, which write or read data on and from a disk-shaped recording medium such as a CD (Compact Disc), DVD (Digital Versatile Disc) or HD (Hard Disk) while driving the medium for rotation. It is known that flapping of a disk-shaped recording medium, which is referred to as "flutters" occurs when the disk-shaped recording medium is rotated. Under the circumstance, configurations for reducing ~~flutters~~ flutter during rotation of a disk-shaped recording medium are known (for example, see Reference 1: JPHei 11-232866A, the left column of p. 3 to the right column of p. 4, and Reference 2: JP2001-338482A, the right column of p. 2 to the right column of p. 3).

**Please replace paragraph [5] with the following rewritten paragraph:**

In a configuration disclosed in Reference 1, a gap between an outer circumference of a disk in a magnetic disk device and an inner wall of a shroud is reduced to a predetermined distance to eliminate any difference in air pressure between the top and bottom sides of the disk and to thereby reduce the amplitude of ~~flutters~~ flutter. In a configuration disclosed in Reference 2, a gap between one surface of a disk and stationary walls of a base and a cover opposing the disk surface is kept at

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1 mm or less to reduce ~~flutters~~ flutter generated by a difference between the pressures of airflows generated when the disk is rotated. Further, in the configuration disclosed in Reference 2, a shroud member is provided on the cover in a region of the shroud opposing an actuator chamber in the vicinity of a magnetic head to form a labyrinth between the chamber and the shroud such that an airflow which has been circulated in the actuator chamber will not flow into the vicinity of the magnetic head. Vibration of the magnetic head is thus suppressed.

**Please replace paragraph [6] with the following rewritten paragraph:**

Increase in rotating speed of disk-shaped recording media is proceeding in order to reduce the time required to read or record data. As a result of the increase in the rotating speed, the generation of ~~flutters~~ flutter has become significant. In particular, needs for recording data in higher densities have resulted in demand for reduction of ~~flutters~~ flutter.

**Please replace paragraph [7] with the following rewritten paragraph:**

An object of the present invention is to provide a disk device in which ~~flutters are~~ flutter is reduced.

**Please replace paragraph [15] with the following rewritten paragraph:**

Fig. 6 is a plan view showing a sample used in Example 1 ~~under in~~ in an experiment for checking how ~~flutters are~~ flutter is suppressed according to the present invention;

**Please replace paragraph [16] with the following rewritten paragraph:**

Fig. 7 is a plan view of a sample used in Example 2 ~~under~~ in the experiment;

**Please replace paragraph [17] with the following rewritten paragraph:**

Fig. 8 is a plan view of a sample used in Example 3 ~~under~~ in the experiment;

**Please replace paragraph [22] with the following rewritten paragraph:**

A first embodiment of the present invention will now be described based on the accompanying drawings. ~~Although the~~ The present embodiment will be described with reference to a disk drive as an example of a disk device for recording and reading data on and from an optical disc as a disk-shaped recording medium. However, the present invention may be applied to, for example, portable disk device, reproduction and recording device having a disk drive for performing processes for recording and reproducing, for example, video data, and game machines. That is, the present invention is applicable to any type of disk device which records or reads out various data on and from any disk-shaped recording medium such as a magnetic disk and magneto-optical disc other than optical discs. Further, although the description will be made with reference to a mode of implementation in which a disk-shaped recording medium is loaded such that the plane of the medium extends in a substantially horizontal direction, the present invention accommodates modes of implementation in which the plane of a medium extends in a substantially vertical direction.

**Please replace paragraph [42] with the following rewritten paragraph:**

~~Operations~~ The operation of the disk device 100 in the above embodiment will now be described.

**Please replace paragraph [45] with the following rewritten paragraph:**

In this state, the control circuit on the circuit board 60 controls the main body 20 such that the pickup of the reproduction unit 41 that is appropriately moved by the movement unit 31 reads or records data from or on the optical disc 28 rotated by the rotation motor 26 of the disk rotation driver 25. During the rotation of the optical disc 28, even if the disc is rotated at a relatively high speed of, for example, 6500 to 7000 rpm or more, since the recess of the disk tray 16 is covered from above by the cover section 17c of the rotor support member 17, it is possible to prevent ~~flutters~~ flutter from being generated due to an airflow generated by the rotation of the optical disc 28 or a difference between pressures on both sides of the optical disc 28. The optical disc 28 can therefore be rotated with stability.

**Please replace paragraph [47] with the following rewritten paragraph:**

As described above, in the above embodiment, the rotor support member 17 is provided on a disk tray 16, and it opposes the recording surface of the optical disc 28 on which data are recorded and defines the substantially cylindrical housing space 18 which houses the optical disc 28 in a

substantially coaxial relationship therewith so as to cover the tray recess 16a1 having the flat surface 16aa for setting the optical disc 28 from above. The rotor support member 17 is provided with the cover section 17c which covers the recess 16a3 located outwardly from the outer circumferential edge of the optical disc 28 housed in the housing space 18 or located outside the flat surface 16aa, the cover section 17c being spaced from the recess at an interval smaller than the interval at which the opening 16a2 is covered, the opening 16a2 being a gap between the flat surface 16aa and the part of the rotor support member 17 opposing the same. This suppresses communication of air between the housing space 18 and the surroundings through the recess 16a3 caused by the rotation of the optical disc 28. As a result, even when the optical disc 28 is rotated at a high speed, it is possible to reduce ~~flutters~~ flutter generated due to an airflow or a difference between pressures on both sides of the optical disc 28 and to thereby rotate the optical disc 28 with stability. Therefore, the optical disc 28 can be rotated at a high speed to allow a reduction in processing time required for reading and recording data, and the stable rotation allows data to be recorded in higher densities and allows the amount of recorded data to be increased easily.

**Please replace paragraph [49] with the following rewritten paragraph:**

The cover section 17c is formed with a plurality of bends being kept close to the disk tray 16. As a result, the housing space 18 can be provided with improved air-tightness when the recess 16a3 is covered with a simple configuration, and the generation of ~~flutters~~ flutter can therefore be reduced with a simple configuration.

**Please replace paragraph [51] with the following rewritten paragraph:**

Furthermore, the cover section 17c is formed in a substantially tongue-like shape adapted to the recess 16a3 provided to prevent interference of the pickup 45. It is therefore possible to prevent ~~flutters~~ flutter using a simple shape having minimum dimensions and to thereby prevent any increase in the size of a device.

**Please replace paragraph [52] with the following rewritten paragraph:**

The opposite part 17c4 which is bent so as to be substantially parallel to the top surface of the disk tray 16 is provided at the end of the cover section 17c. Thus, air-tightness can be easily achieved in the housing space 18 with a simple structure when the recess 16a3 is covered from above, which makes it possible to reliably prevent the occurrence of ~~flutters~~ flutter with a simple configuration and to thereby allow the optical disc 28 to be rotated with stability.

**Please replace paragraph [59] with the following rewritten paragraph:**

As thus described, the rotor support member 210 is provided on the disk tray 16, and it opposes the recording surface of the optical disc 28 on which data are recorded and defines the substantially cylindrical housing space 18 which houses the optical disc 28 in a substantially coaxial relationship therewith so as to cover the tray recess 16a1 having the flat surface 16aa for setting the optical disc 28 from above. The projections 212 are provided on the bottom surface of the rotor

support member 210 defining the housing space 18 and opposing the optical disc 28 such that their ends face at least a part of the outer circumferential edge of the optical disc 28. As a result, an airflow generated by the rotation of the optical disc 28 is directed to and sprayed on the optical disc 28 by the projections 212, and the airflow holds down the disc to prevent it from being inclined due to ~~flutters~~ flutter. Thus, ~~flutters~~ flutter generated by an airflow or a difference between pressures on both sides of the optical disc 28 can be reduced even when the optical disc 28 is rotated at a high speed. Even if ~~flutters are~~ flutter is generated, the periphery of the non-recording surface of the optical disc 28 abuts on the ends of the projections 212 as a result of an increase in the inclination of optical disc attributable to the flutter, and any further inclination of the optical disc 28 can be thereby prevented. It is therefore possible to prevent great fluctuations of the distance between the pickup 45 and the recording surface and to thereby record and read data properly. Thus, the optical disc 28 can be rotated at a high speed, and the processing time required for reading and recording data can be easily reduced.

**Please replace paragraph [60] with the following rewritten paragraph:**

The projections 212 are in the form of ribs which extend in the radial direction from the outer circumferential edge of the surface of the rotor support member 210 defining the housing space 18 toward a position corresponding to the center of the optical disc 28 housed in the housing space 18. Since the projections 212 are provided in positions corresponding to the outer circumference of the optical disc 28 such that they extend in the radial direction of optical disc, it is possible to reduce

~~flutters~~ flutter generated by an airflow or a difference between pressures on both sides of the optical disc 28 with a simple structure. Even if flutters are generated, tilting of the optical disc 28 can be properly suppressed. In particular, the pair of projections 212 symmetrically acts on the optical disc 28 because they are provided in the radial direction of optical disc, which makes it possible to suppress ~~flutters~~ flutter with a simple configuration.

**Please replace paragraph [61] with the following rewritten paragraph:**

The projections 212 are provided with inclined circumferential surfaces so that their dimensions increase toward the bases ends thereof. As a result, an airflow generated by the rotation of the optical disc 28 is smoothly guided by the inclined circumferential surfaces toward the optical disc 28 and is sprayed on the optical disc 28 to hold it down. It is therefore possible to properly reduce ~~flutters~~ flutter properly with a simple configuration, and the generation of noises can be also suppressed because the inclined surfaces suppresses the generation of turbulence at the projections 212.

**Please replace paragraph [62] with the following rewritten paragraph:**

Further, the pair of projections 212 is point-symmetrically provided in the radial direction such that they face each other in the direction substantially orthogonal to the longitudinal direction of the opening 146a2 where the pickup 45 is located. Thus, ~~flutters~~ flutter of the optical disc 28 can be efficiently reduced, and the optical disc 28 can be properly rotated with a simple configuration.



**Please replace paragraph [63] with the following rewritten paragraph:**

The projections 212 are formed using a drawing process such that they bulge from the rotor support member 210 integrally therewith when the support member is pressed. As a result, the projections 212 for reducing ~~flutters~~ flutter can be easily formed in a single action without making any change to manufacturing methods according to the related art.

**Please replace paragraph [65] with the following rewritten paragraph:**

The reinforcement ribs 211 are formed in positions of the rotor support member 210 corresponding to the outer circumferential edge of the optical disc 28 such that they project toward the optical disc 28 similarly to the projections 212. Therefore, the reinforcement ribs 211 work similarly to the projections 212 to allow a further reduction of ~~flutters~~ flutter, and reinforcement and a reduction in ~~flutters~~ flutter can be achieved with a single configuration. Thus, the versatility of the elements allows a configuration to be easily simplified.

**Please replace paragraph [74] with the following rewritten paragraph:**

A configuration may be employed, in which the cover section 17c of the first embodiment and the projections 212 of the second embodiment are combined. This configuration substantially eliminates ~~flutters~~ flutter.

**Please replace paragraph [75] with the following rewritten paragraph:**

The specific structures and procedures for carrying out the present invention may be changed to other structures and so on as occasions demand within ~~[[a]]~~ the scope in which the object of the present invention can be achieved.

**Please replace paragraph [76] with the following rewritten paragraph:**

A description will now be made on results of experiments for checking how ~~flutters are~~ flutter is suppressed by the cover section 17c of the first embodiment and the projections 212 of the second embodiment. Fig. 6 is a plan view showing a sample used in Example 1. Fig. 7 is a plan view showing a sample used in Example 2. Fig. 8 is a plan view of a sample used in Example 3. Fig. 9 shows results of the experiment in the form of a table on which states of inclination of optical discs during the experiment are listed. Fig. 10 is a graph showing results of an experiment on Example 6. Fig. 11 is a graph showing results of an experiment on a comparative example.

**Please replace paragraph [80] with the following rewritten paragraph:**

The results obtained on Example 1 indicate that ~~flutters are~~ flutter is reduced by providing the cover section 17c to cover the recess 16a3 compared to the comparative example. The results obtained on Examples 1 to 6 indicate that ~~flutters are~~ flutter is reduced by providing the projections 212 even when the recess 16a3 is not covered, compared to the comparative example. Further, it will be understood that ~~flutters are~~ flutter is reduced by providing the projections 212 continuously

with the edge of the support member. Examples 4 and 5 show that a change in the length of the projections 212 inverted the reduction of ~~flutters~~ flutter, i.e. inverted the inclination of the optical disc 28. This indicates that a proper length of the projections 212 resides in the range from 5 mm to 15 mm. Specifically, the results obtained on Examples 2 to 4 indicate that projections having a length of 10 mm and a width of 10 mm are preferable. Further, results obtained on Examples, 7, 8, 3 and 6 indicate that there is an appropriate value for the height to which the projections 212 project. Those experimental results indicate that the shape of Example 6 is most preferable among the configurations in which the projections 212 are provided. Further, the results obtained on Examples 1, 7 and 8 indicate that a further reduction of ~~flutters~~ flutter can be achieved by providing the projections 212 while covering the recess 16a3.

**Please replace paragraph [82] with the following rewritten paragraph:**

As described above, the rotor support member 17 substantially covers the tray recess 16a1 having the flat surface 16aa on which the optical disc 28 is set, from above and defines the substantially cylindrical housing space 18 for substantially coaxially housing the optical disc 28. The rotor support member 17 is provided with the cover section 17c, which covers the recess 16a3 located outside the flat surface 16aa at an interval smaller than the interval at which the opening 16a2 is covered. This makes it possible to suppress communication of air between the housing space 18 and the surroundings through the recess 16a3 caused by the rotation of the optical disc 28. As a

result, ~~flutters~~ flutter attributable to an airflow or a difference between pressures on both sides of the optical disc 28 can be reduced to allow the optical disc 28 to rotate with stability.

**Please replace paragraph [83] with the following rewritten paragraph:**

The projections 212 are provided on the rotor support member 210 which substantially covers the tray recess 16a1 having the flat surface 16aa on which the optical disc 28 is set, from above and defines the substantially cylindrical housing space 18 for substantially coaxially housing the optical disc 28, the projections 212 being provided such that their ends face at least a part of the outer circumferential edge of the optical disc 28 on the bottom surface of the rotor support member 210 defining the housing space 18 and opposing the optical disc 28. As a result, an airflow generated by the rotation of the optical disc 28 is directed to and sprayed on the optical disc 28 with the projections 212, and the airflow holds down optical disc to prevent it from being inclined due to ~~flutters~~ flutter. Thus, ~~flutters~~ flutter generated by an airflow or a difference between pressures on both sides of the optical disc 28 can be reduced. Even if flutters are generated, the periphery of the non-recording surface of the optical disc 28 abuts on the ends of the projections 212 as a result of an increase in the inclination of optical disc attributable to the ~~flutters~~ flutter, and any further inclination of the optical disc 28 can be thereby prevented.